STATE OF MISSOURI

DEPARTMENT OF NATURAL RESOURCES

MISSOURI CLEAN WATER COMMISSION



MISSOURI STATE OPERATING PERMIT

In compliance with the Missouri Clean Water Law, (Chapter 644 R.S. Mo. as amended, hereinafter, the Law), and the Federal Water Pollution Control Act (Public Law 92-500, 92nd Congress) as amended,

MO-0116084

Donald Dotson

Permit No.

Owner:

Address:	23552 Monroe Road 483, Stoutsville, MO 65283
Continuing Authority: Address:	Same as above Same as above
Facility Name: Facility Address:	Stoutsville Resort & RV Park, LLC 23552 Monroe Road 483, Stoutsville, MO 65283
Legal Description: Latitude/Longitude:	SEE PAGE TWO SEE PAGE TWO
Receiving Stream: First Classified Stream and ID: USGS Basin & Sub-watershed No.:	SEE PAGE TWO SEE PAGE TWO SEE PAGE TWO
is authorized to discharge from the facility das set forth herein:	escribed herein, in accordance with the effluent limitations and monitoring requirements
FACILITY DESCRIPTION	
SEE PAGE TWO	
	harges under the Missouri Clean Water Law and the National Pollutant Discharge er regulated areas. This permit may be appealed in accordance with Section 644.051.6 of
September 19, 2008 Effective Date	Doyle Childers, Director, Department of Natural Resources Executive Secretary, Clean Water Commission
<u>September 18, 2013</u> Expiration Date MO 780-0041 (10-93)	Irene Crawford, Director, Northeast Regional Office

FACILITY DESCRIPTION (continued)

Outfall #001 - Resort & RV Park - SIC #4952/#7011 - No Certified Operator Required

Domestic Wastewater No-discharge System

Single cell storage lagoon / wastewater irrigation / sludge is retained in lagoon.

Design population equivalent is 93.

Design flow is 3,573 gallons per day (1-in-10 year design including net rainfall minus evaporation).

Average design flow is 3,180 gallons per day (dry weather flows).

Actual flow is 1,500 gallons per day.

Design sludge production is 0.81 dry tons per year.

Legal Description: SE ¼, NE ¼, SW ¼, Sec. 19, T55N, R8W, Monroe County

Latitude/Longitude: +3932027/-09150336

Receiving Stream: Unnamed tributary to Mark Twain Lake (U) First Classified Stream and ID: Mark Twain Lake (L2) (07033) 303(d) list

USGS Basin & Sub-watershed No.: (07110005-040003)

Outfall #002 – Swimming Pool Discharge – SIC #7999

Discharges of filter backwash and pool drainage from swimming pool. Filter backwash discharges shall be infrequent and of low volume.

Legal Description: SE ¼, NE ¼, Sec. 19, T55N, R8W, Monroe County

Latitude/Longitude: +3931573/-09150344

Receiving Stream: Unnamed tributary to Mark Twain Lake (U) First Classified Stream and ID: Mark Twain Lake (L2) (07033) 303(d) list

USGS Basin & Sub-watershed No.: (07110005-040003)

Receiving Stream Watershed: a gaining stream setting that flows into an unnamed tributary to Mark Twain Lake

Facility Type:

No-discharge Storage and Irrigation System for seasonal flows into gaining stream, a 303(d) listed stream

		Recreational Season
Design Basis:	Avg Annual	(April-Oct)
Design Dry Weather Flows:	3,180 gpd	2,544 gpd
Design with 1-in-10 Year Flows:	3,573 gpd	2,858 gpd
Design PE: 93		

Storage Basin/Tank:

Freeboard for basin: 2 feet

Storage volume (minimum to maximum water levels): 165,278 gallons

Days of Storage	Recreational Season					
Storage Capacity:	(April-Nov)	(Dec-March)				
Design for Dry Weather Flows:	<u>65</u> days	<u>260</u> days				
Design with 1-in 10 Year Flows:	<u>58</u> days	<u>231</u> days				

Land Application:

Irrigation Volume/year: 697,352 gallons at design loading (including 1-in-10 year flows)

Irrigation areas: 1.07 acres at design loading (2.0 acres total available)

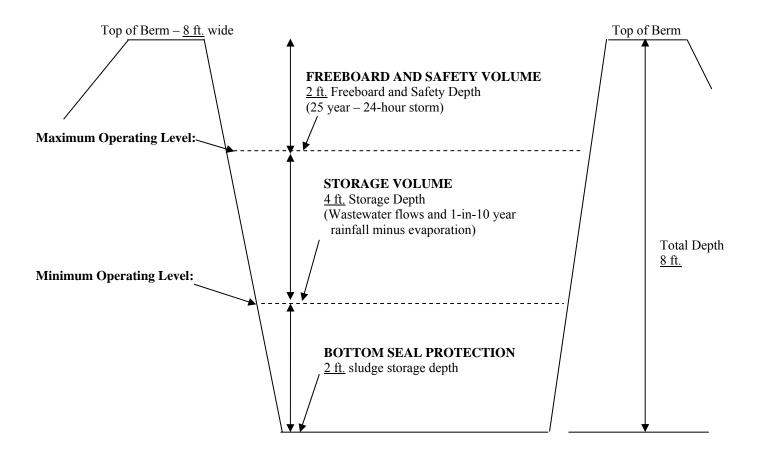
Application rates: 0.5 inch/hour; 1.0 inch/day; 3.0 inches/week; 28.0 inches/year

Field slopes: less than <u>2</u> percent Equipment type: <u>Distribution Pipe</u>

Vegetation: Grass Hay

Application rate is based on: <u>hydraulic loading rate</u>

LAGOON PROFILE



Lagoon Dimensions:	(Length x Width)	Surface Area	Depth from Bottom	Pump down depth (from berm)
Center Line Top Berm:	106x106		by 8 feet depth	
Inside Top Berm:	98 x 98	<u>9,604</u> sq. ft.	by 8 feet depth	
Freeboard & Safety Vol:	86 x 86	<u>8,464</u> sq. ft.	by <u>6</u> feet depth	<u>2</u> feet
Maximum operating level:			6.0 feet depth	2 feet
Minimum operating level:			2.0 feet depth	6 feet
Aerobic BOD design basis	:		2.0 feet depth	<u>6</u> feet

Storage volume (minimum to maximum water levels): 165,278 gallons

Berm top width: <u>8</u> feet Berm runoff area (Centerline to 2 ft freeboard and safety volume): <u>3,840</u> sq. ft.

1-in-10 year annual storm water flows into lagoon (R-E): 17,411 cu. ft. (130,234 gallons)

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

PAGE NUMBER 4 of 9

PERMIT NUMBER MO-0116084

The permittee is authorized to discharge from outfall(s) with serial number(s) as specified in the application for this permit. The final effluent limitations shall become effective upon issuance and remain in effect until expiration of the permit. Such discharges shall be controlled, limited and monitored by the permittee as specified below:

		FINAL EFFLUENT LIMITATIONS			MONITORING REQUIREMENTS		
OUTFALL NUMBER AND EFFLUENT PARAMETER(S)	UNITS	DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MEASUREMENT FREQUENCY	SAMPLE TYPE	
Outfall #001 - Emergency discharge from lagoon (Note 1)							
Flow	MGD	*			once/day**	24 hr. estimate	
Biochemical Oxygen Demand ₅	mg/L		65	45	once/month**	grab	
Total Suspended Solids	mg/L		120	80	once/month**	grab	
Ammonia Nitrogen as N	mg/L	*		*	once/month**	grab	
Temperature	°C	*		*	once/month**	grab	
pH – Units	SU	***		***	once/month**	grab	
Fecal Coliform (Note 2)	#/100mL	1000		400	once/month**	grab	
MONITORING REPORTS SHALL BE	SUBMITTED <u>C</u>	UARTERLY;	THE FIRST	REPORT IS	S DUE <u>JANUARY</u> 2	28, 2009.	
Outfall #001 - Land Application Operational Monitoring (Notes 3 & 4)							

Lagoon Freeboard	feet	*		once/month	measured
Irrigation Period	hours	*		daily	total
Volume Irrigated	gallons	*		daily	total
Application Area	acres	*		daily	total
Application Rate	inches	*		daily	total
Rainfall	inches	*		daily	total

MONITORING REPORTS SHALL BE SUBMITTED ANNUALLY; THE FIRST REPORT IS DUE JANUARY 28, 2009

Outfall #001 - Irrigated Wastewater (Notes 5 & 6)

Total Kjeldahl Nitrogen as N	mg/L	*	once/year	grab
Nitrate Nitrogen as N	mg/L	*	once/year	grab
Ammonia Nitrogen as N	mg/L	*	once/year	grab

MONITORING REPORTS SHALL BE SUBMITTED ANNUALLY; THE FIRST REPORT IS DUE JANUARY 28, 2009. THERE SHALL BE NO DISCHARGE OF FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS.

B. STANDARD CONDITIONS

IN ADDITION TO SPECIFIED CONDITIONS STATED HEREIN, THIS PERMIT IS SUBJECT TO THE ATTACHED Parts I & III STANDARD CONDITIONS DATED October 1, 1980 and August 15, 1994, AND HEREBY INCORPORATED AS THOUGH FULLY SET FORTH HEREIN.

MO 780-0010 (8/91)

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

PAGE NUMBER 5 of 9

PERMIT NUMBER MO-0116084

The permittee is authorized to discharge from outfall(s) with serial number(s) as specified in the application for this permit. The final effluent limitations shall become effective upon issuance and remain in effect until expiration of the permit. Such discharges shall be controlled, limited and monitored by the permittee as specified below:

		FINAL EFFI	LUENT LIN	IITATIONS	MONITORING REQ	MONITORING REQUIREMENTS	
OUTFALL NUMBER AND EFFLUENT PARAMETER(S)	UNITS	DAILY MAXIMUM	WEEKLY AVERAG E	MONTHLY AVERAGE	MEASUREMENT FREQUENCY	SAMPLE TYPE	
Outfall #002 - Filter Backwash and Pool D	oischarge (Note	e 10)					
Filter Backwash (Note 7)							
Volume (Note 8)	Gallons	*		*	once/month**	Estimate	
Total Residual Chlorine (Note 11)	mg/L	0.019 (0.13ML)		0.01 (0.13ML)	once/month**	grab	
Settleable Solids	mL/L/hr	1.5		1.0	once/month**	grab	
pH – Units	SU	****		****	once/month**	grab	
Pool Drainage							
Volume (Note 8)	Gallons	*		*	once/month**	Estimate	
Total Residual Chlorine (Note 11)	mg/L	0.019 (0.13ML)		0.01 (0.13ML)	once/month**	grab	
Settleable Solids	mL/L/hr	1.5		1.0	once/month**	grab	
Dissolved Oxygen – Minimum (Note 9)	mg/L	5.0		5.0	once/month**	grab	
pH – Units	SU	****		****	once/month**	grab	

MONITORING REPORTS SHALL BE SUBMITTED <u>ANNUALLY</u>; THE FIRST REPORT IS DUE <u>JANUARY 28, 2009</u>. THERE SHALL BE NO DISCHARGE OF FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS.

B. STANDARD CONDITIONS

IN ADDITION TO SPECIFIED CONDITIONS STATED HEREIN, THIS PERMIT IS SUBJECT TO THE ATTACHED <u>Parts I & III</u> STANDARD CONDITIONS DATED <u>October 1, 1980 and August 15, 1994</u>, AND HEREBY INCORPORATED AS THOUGH FULLY SET FORTH HEREIN.

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (continued)

- * Monitoring requirement only.
- ** Monitor only when discharge occurs. Report as no-discharge when a discharge does not occur during the report period.
- *** pH is measured in pH units and is not to be averaged. The pH shall be maintained above 6.0 pH units.
- **** The pH is limited to the range of 6.5-9.0 pH units.
- Note 1 No-discharge facility requirements. Wastewater shall be stored and land applied during suitable conditions so that there is no-discharge from the lagoon or irrigation site. An emergency discharge may occur when excess wastewater has accumulated above feasible irrigation rates due to precipitation exceeding the 1-in-10-year 365 day rainfall or the 25-year 24-hour storm event.
- Note 2 Final limitations and monitoring requirements for Fecal Coliform are applicable only during the recreational season from April 1 through October 31. The Monthly Average Limit for Fecal Coliform is a geometric mean.

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (continued)

- Note 3 Records shall be maintained and submitted in an annual report, which shall be submitted by January 28th of each year for the previous calendar year period using report forms approved by the Department. The annual report shall also include the following additional information:
 - a. Record of maintenance and repairs performed during the year, average number of times per month the facility is checked to see if it is operating properly, and description of any unusual operating conditions encountered during the year;
 - b. The reason(s) the emergency discharge(s) occurred; and
 - c. A summary of the irrigation operations including crops grown, crop yields per acre, and calculations for nitrogen applied and crop removal of nitrogen if required (See Special Conditions #7 j.).
- Note 4 Lagoon freeboard shall be reported as lagoon water level in feet below the overflow level. See Special Conditions for Wastewater Irrigation System requirements.
- Note 5 Wastewater that is irrigated shall be sampled at the irrigation pump or wet well.
- Note 6 Monitor once per year during the months of March through November.
- Note 7 If more than one discharge of filter backwash water occurs in a month, testing is required for only one discharge event. If no discharge occurs in a given month, report as "no-discharge" for that month.
- Note 8 Estimate the volume as the total gallons of water that is released. The release rate shall be controlled to avoid high volumes of water being discarded into small streams that can cause stream channel erosion or can cause downstream flooding or property damage. If no discharge occurs in a given month, report as "no-discharge" for that month
- Note 9 Dissolved Oxygen shall be sampled only if dechlorinating chemicals were used to lower the residual chlorine in the pool. Dechlorination can lead to a lowering of the dissolved oxygen concentration in the water that is discharged. Dissolved Oxygen must be maintained at or above 5.0 mg/L to protect aquatic life in the receiving stream. If necessary, use aeration to increase the Dissolved Oxygen in the discharge.
- Note 10 The annual report should include the following information: Source of the water for the pool; discharge monitoring parameters as listed in Section A, "Effluent Limitations and Monitoring Requirements"; a list of all chemicals other than chlorine compounds that are added to the pool for algae control or other purposes and the estimated quantities of such chemicals; and dates of operation of the pool.
- Note 11 This permit contains a Total Residual Chlorine (TRC) limit.
 - a. This effluent limit is below the minimum quantification level (ML) of the most common and practical EPA approved CLTRC methods. The department has determined the current acceptable ML for total residual chlorine to be 0.13 mg/L when using the DPD Colorimetric Method #4500 CL G. from Standard Methods for the Examination of Waters and Wastewater. The permittee will conduct analyses in accordance with this method, or equivalent, and report actual analytical values. Measured values greater than or equal to the minimum quantification level of 0.13 mg/L will be considered violations of the permit and values less than the minimum quantification level of 0.13 mg/L will be considered to be in compliance with the permit limitation. The minimum quantification level does not authorize the discharge of chlorine in excess of the effluent limits stated in the permit.
 - b. Do not chemically dechlorinate if it is not needed to meet the limits in your permit.

C. SPECIAL CONDITIONS

- 1. Report as no-discharge when a discharge does not occur during the report period.
- 2. Outfalls must be marked in field.

3. Water Quality Standards

- a. Discharges to waters of the state shall not cause a violation of water quality standards rule under 10 CSR 20-7.031, including both specific and general criteria.
- b. General Criteria. The following general water quality criteria shall be applicable to all waters of the state at all times including mixing zones. No water contaminant, by itself or in combination with other substances, shall prevent the waters of the state from meeting the following conditions:
 - (1) Waters shall be free from substances in sufficient amounts to cause the formation of putrescent, unsightly or harmful bottom deposits or prevent full maintenance of beneficial uses;
 - (2) Waters shall be free from oil, scum and floating debris in sufficient amounts to be unsightly or prevent full maintenance of beneficial uses;
 - (3) Waters shall be free from substances in sufficient amounts to cause unsightly color or turbidity, offensive odor or prevent full maintenance of beneficial uses;
 - (4) Waters shall be free from substances or conditions in sufficient amounts to result in toxicity to human, animal or aquatic life;
 - (5) There shall be no significant human health hazard from incidental contact with the water;
 - (6) There shall be no acute toxicity to livestock or wildlife watering;
 - (7) Waters shall be free from physical, chemical or hydrologic changes that would impair the natural biological community;
 - (8) Waters shall be free from used tires, car bodies, appliances, demolition debris, used vehicles or equipment and solid waste as defined in Missouri's Solid Waste Law, section 260.200, RSMo, except as the use of such materials is specifically permitted pursuant to section 260.200-260.247.
- 4. This permit may be reopened and modified, or alternatively revoked and reissued, to:
 - a. Comply with any applicable effluent standard or limitation issued or approved under Sections 301(b)(2)(C) and (D), 304(b)(2), and 307(a) (2) of the Clean Water Act, if the effluent standard or limitation so issued or approved:
 - (1) contains different conditions or is otherwise more stringent than any effluent limitation in the permit; or
 - (2) controls any pollutant not limited in the permit.
 - b. Incorporate new or modified effluent limitations or other conditions, if the result of a waste load allocation study, toxicity test or other information indicates changes are necessary to assure compliance with Missouri's Water Quality Standards.
 - c. Incorporate new or modified effluent limitations or other conditions if, as the result of a watershed analysis, a Total Maximum Daily Load (TMDL) limitation is developed for the receiving waters which are currently included in Missouri's list of waters of the state not fully achieving the state's water quality standards, also called the 303(d) list.

The permit as modified or reissued under this paragraph shall also contain any other requirements of the Clean Water Act then applicable.

- 5. Sludge and Biosolids Use For Domestic Wastewater Treatment Facilities
 - a. Permittee shall comply with the pollutant limitations, monitoring, reporting, and other requirements in accordance with the attached permit Standard Conditions.
 - b. If sludge is not removed by a contract hauler, permittee is authorized to land apply biosolids. Permit Standard Conditions, Part III shall apply to the land application of biosolids. Permittee shall notify the department at least 180 days prior to the planned removal of biosolids. The department may require submittal of a biosolids management plan for department review and approval as determined appropriate on a case-by-case basis.
- 6. Lagoons and earthen basins shall have a liner that is designed, constructed and maintained. If operating records indicate excessive percolation, the department may require corrective action as necessary to eliminate excess leakage.

C. SPECIAL CONDITIONS (continued)

7. Wastewater Irrigation System.

- a. <u>Discharge Reporting.</u> Any unauthorized discharge from the lagoon or irrigation system shall be reported to the department as soon as possible but always within 24 hours. Discharge is allowed only as described in the Facility Description and Effluent Limitations sections of this permit.
- b. <u>Lagoon Operating Levels No-discharge Systems.</u> The minimum and maximum operating water levels for the storage lagoon shall be clearly marked. Each lagoon shall be operated so that the maximum water elevation does not exceed one feet below the overflow point except due to exceedances of the 1-in-10 year or 25-year-24 hour storm events. Wastewater shall be land applied whenever feasible based on soil and weather conditions and permit requirements. Storage lagoon(s) shall be lowered to the minimum operating level prior to each winter by November 30.
- c. <u>Emergency Spillway</u>. Lagoons and earthen storage basins should have an emergency spillway to protect the structural integrity of earthen structures during operation at near full water levels and in the event of overflow conditions. The spillway shall be at least one foot below top of berm. The department may waive the requirement for overflow structures on small existing basins.
- d. <u>General Irrigation Requirements.</u> The wastewater irrigation system shall be operated so as to provide uniform distribution of irrigated wastewater over the entire irrigation site. A complete ground cover of vegetation shall be maintained on the irrigation site unless the system is approved for row crop irrigation. Wastewater shall be land applied only during daylight hours. The wastewater irrigation system shall be capable of irrigating the annual design flow during an application period of less than 100 days or 800 hours per year.
- e. <u>Saturated/Frozen Conditions.</u> There shall be no irrigation during frozen, snow covered, or saturated soil conditions.
- f. <u>Buffer Zones.</u> There shall be no irrigation within 300 feet of any down gradient pond, lake, sinkhole, losing stream or water supply withdrawal; 100 feet of gaining streams or tributaries; 150 feet of dwelling or public use areas; or 50 feet of the property line.
- g. <u>Public Access Restrictions.</u> Public access shall not be allowed to public use area irrigation sites when application is occurring.
- h. Public Access Restrictions. Public access shall not be allowed to the irrigation site(s).
- i. Operation and Maintenance Manual.
 - The permittee shall develop within 120 days of issuance of this permit an Operation and Maintenance (O&M) Manual that includes all necessary items to ensure the operation and integrity of the waste handling and land application systems. The permittee shall maintain and implement the O&M Manual. The O&M Manual shall be reviewed and updated at least every five years or upon a change in operation and maintenance for the facility. A copy of the O&M Manual shall be submitted to the Northeast Regional Office within 180 days of issuance of this permit. When future revisions to the manual are made, a copy of the revised sections shall be submitted to the department within 60 days of completion.
- j. Nitrogen Loading Rates. Wastewater irrigation rates shall not exceed a nitrogen application rate of 150 pounds total nitrogen per acre per year, and the applied wastewater shall not exceed ten (10) mg/l of nitrate nitrogen as N. Hydraulic application rates exceeding 60 inches per acre per year shall calculate nitrogen loading rates and include results in the annual report. The calculation procedures are as follows: (Total N) x (0.226) x (inches per acre irrigated) = pounds total N per acre. Where Total N = [Total Kjeldahl Nitrogen (TKN) as N] + [Nitrate Nitrogen as N]. If the applied wastewater exceeds 150 pounds total nitrogen per acre/year, the permittee must reduce the application rates or submit a revised permit application to request use of the Plant Available Nitrogen (PAN) method based on crop nitrogen requirements for harvested crops. PAN availability factors for surface application are: [Ammonia N x 0.6] + [Nitrate N x 0.9] + [Organic N x 0.6] = PAN. If the applied wastewater exceeds ten (10) mg/l of nitrate nitrogen as N, then the facility shall submit a revised permit application to request use of the Plant Available Nitrogen (PAN) method based on crop nitrogen requirements for harvested crops.
- k. <u>Equipment Checks during Irrigation</u>. The irrigation system and application site shall be visually inspected at least <u>once/day</u> during wastewater irrigation to check for equipment malfunctions and runoff from the irrigation site.

C. SPECIAL CONDITIONS (continued)

- 8. The permittee shall comply with any applicable requirements listed in 10 CSR 20-8 and 10 CSR 20-9, unless the facility has received written notification that the Department has approved a modification to the requirements. The monitoring frequencies contained in this permit shall not be construed by the permittee as a modification of the monitoring frequencies listed in 10 CSR 20-9. If a modification of the monitoring frequencies listed in 10 CSR 20-9 is needed, the permittee shall submit a written request to the department for review and, if deemed necessary, approval.
- 9. <u>Land Application Sites</u>. To add additional land application sites, the permittee shall document that the new land application site(s) meet the setback requirements referenced in Special Conditions #7 (f). Additionally, the O&M Manual shall be updated to include the additional land application site(s) and a copy of the updated sections of the O&M Manual shall be submitted to the Northeast Regional Office in accordance with Special Condition #7 (h).
- 10. The Total Residual Chlorine (TRC) concentration in the Filter Backwash and Pool Discharge is the principal parameter of concern. In order to allow chlorine to dissipate, chlorination must cease at least seven days prior to discharge. As an alternative, chemical dechlorination may be used to remove chlorine if desired (also see Note 9).
- 11. Filter backwash shall be directed to grassed areas or other buffers to the extent possible to prevent a direct discharge to state waters. Effluent limitations are applicable where the discharge leaves the property boundary. If retention structures are needed to meet the effluent limitations, the department shall be contacted to determine if a construction permit is required.
- 12. The permit should not be considered to be protective against claims of nuisance or water damage on adjacent properties.
- 13. In the event that the discharge is known to cause a fish kill, the permittee shall immediately contact the Missouri Department of Natural Resources' Environmental Emergency Response unit at 573-634-2436 and the discharge shall be ceased.

PERMIT TRANSFER

This permit may be transferred to a new owner by submitting an "Application for Transfer of Operating Permit" signed by the seller and buyer of the facility, along with the appropriate modification fee.

PERMIT RENEWAL REQUIREMENTS

Unless this permit is terminated, the permittee shall submit an application for the renewal of this permit no later than six (6) months prior to the permit's expiration date. Failure to apply for renewal may result in termination of this permit and enforcement action to compel compliance with this condition and the Missouri Clean Water Law.

TERMINATION

In order to terminate this permit, the permittee shall notify the department by submitting Form J, included with the State Operating Permit. The permittee shall complete Form J and mail it to the department at the address noted in the cover letter of this permit. Proper closure of any storage structure is required prior to permit termination. A closure plan shall be submitted to the department and approved prior to initiating closure activities.

DUTY OF COMPLIANCE

The permittee shall comply with all conditions of this permit. Any noncompliance with this permit constitutes a violation of Chapter 644, Missouri Clean Water Law, and 10 CSR 20-6. Noncompliance may result in enforcement action, termination of this authorization, or denial of the permittee's request for renewal.

This permit authorizes only the activities described in this permit. Compliance with this permit may not be considered a shield from compliance with any local ordinance, State Regulation or State Law.

Missouri Department of Natural Resources Statement of Basis Stoutsville NPDES #: MO-0116084

Monroe County

A Statement of Basis (Statement) gives pertinent information regarding the applicable regulations and rational for the development of the NPDES Missouri State Operating Permit (operating permit). This Statement includes Wasteload Allocations, Water Quality Based Effluent Limitations, and Reasonable Potential Analysis calculations as well as any other calculations that effect the effluent limitations of this operating permit. This Statement does not pertain to operating permits that include sewage sludge land application plans and variance procedures, and does not include the public comment process for this operating permit.

A Statement is not an enforceable part of an operating permit.

Part I – Facility Information

Facility Type: Resort & RV Park / Swimming Pool

Facility SIC Code(s): #7011/#7999

Facility Description:

No-discharge single cell storage lagoon with wastewater irrigation. Discharges of filter backwash and pool drainage from swimming pool. Filter backwash discharges shall be infrequent and of low volume.

OUTFALL(S) TABLE:

OUTFALL	DESIGN FLOW GPD	TREATMENT LEVEL	EFFLUENT TYPE	DISTANCE TO CLASSIFIED SEGMENT (MI)
#001	3,573	Equivalent to Secondary	Domestic	~ 1.21
#002	NA	none	Filter Backwash and Pool Discharge	~ 1.32

Water Quality History: No Stream Survey, Basin Inventory, or Low Flow Surveys has been conducted for this facility.

<u>Comments:</u> The department conducted a compliance inspection of the facility on October 29, 2002. No water quality violations were noted during the inspection. The facility has consistently failed to submit discharge monitoring reports and annual land application operational monitoring reports since 2003.

Part II – Operator Certification Requirements

As per [10 CSR 20-9.020(2)(A)], requirements for operation applicable, as listed below:	by certified personnel	shall apply to all was	tewater treatment sys	stems, if
Applicable :				

Not Applicable ⊠;

This facility is not required to have a certified operator.

Part III – Receiving Stream Information

APPLICABLE DESIGNATIONS OF WATERS OF THE STATE:

As per Missouri's Effluent Regulations [10 CSR 20-7.015], the waters of the state are divided into the below listed seven (7) categories. Each category list effluent limitations for specific parameters, which are presented in each outfall's Effluent Limitation Table and further discussed in the Derivation & Discussion of Limits section.

Please mark the correct designated waters of the state categories of the receiving stream.

Missouri or Mississippi River [10 CSR 20-7.015(2)]:	Yes □; No ⊠
Lake or Reservoir [10 CSR 20-7.015(3)]:	Yes □; No ⊠
Losing [10 CSR 20-7.015(4)]:	Yes □; No ⊠
Metropolitan No-Discharge [10 CSR 20-7.015(5)]:	Yes □; No ⊠
Special Stream [10 CSR 20-7.015(6)]:	Yes □; No ⊠
Subsurface Water [10 CSR 20-7.015(7)]:	Yes □; No ⊠
All Other Waters [10 CSR 20-7.015(8)]:	Yes ⊠; No □

10 CSR 20-7.031 Missouri Water Quality Standards, the department defines the Clean Water Commission water quality objectives in terms of "water uses to be maintained and the criteria to protect those uses." The receiving stream and/or 1st classified receiving stream's beneficial water uses to be maintained are located in the Receiving Stream Table located below in accordance with [10 CSR 20-7.031(3)].

RECEIVING STREAM(S) TABLE:

Waterbody Name	CLASS	WBID	DESIGNATED USES*	8-Digit HUC	EDU**
Unnamed tributary to Mark Twain Lake	U	NA	General Criteria	07110005	Central Plains/Cuivre/Salt
Mark Twain Lake	L2	07033	LWW, AQL, DWS, SCR, WBC	0/110003	Central Flams/Culvie/Sait

^{* -} Irrigation (IRR), Livestock & Wildlife Watering (LWW), Protection of Warm Water Aquatic Life and Human Health-Fish Consumption (AQL), Cool Water Fishery (CLF), Cold Water Fishery (CDF), Whole Body Contact Recreation (WBC), Secondary Contact Recreation (SCR), Drinking Water Supply (DWS), Industrial (IND), Groundwater (GRW).

Part IV – Rationale and Derivation of Effluent Limitations & Permit Conditions

ALTERNATIVE EVALUATIONS FOR NEW FACILITIES:

As per [10 CSR 20-7.015(4)(A)], discharges to losing streams shall be permitted only after other alternatives including land

application, discharges to a gaining stream and connection to a regional wastewater treatment facility have been evaluated and determined to be unacceptable for environmental and/or economic reasons.
Applicable : ; If applicable, then please explain:
Not Applicable \(\subseteq \); The facility does not discharge to a Losing Stream as defined by [10 CSR 20-2.010(36)] & [10 CSR 20-7.031(1)(N)], or is an existing facility.
ANTI-BACKSLIDING: A provision in the Federal Regulations [CWA §303(d)(4); CWA §402(c); 40 CFR Part 122.44(I)] that requires a reissued permit to be as stringent as the previous permit with some exceptions.
☐ - All limits in this statement are at least as protective as those previously established; therefore, backsliding does not apply.
☐ - Backsliding proposed in this statement for the reissuance of this permit conform to the anti-backsliding provisions of Section 402(o) of the Clean Water Act, and 40 CFR Part 122.44.

^{** -} Ecological Drainage Unit

ANTIDEGRADATION: In accordance with Missouri's Water Quality Standard [10 CSR 20-7.031(2)], the department is to document by means of Antidegradation Review that the use of a water body's available assimilative capacity is justified. Degradation is justified by documenting the socio-economic importance of a discharging activity after determining the necessity of the discharge.
□ - Renewal no degradation proposed and no further review necessary.
☐ - New and/or expanded discharge, please see APPENDIX B – ANTIDEGRADATION ANALYSIS.
General Permit's Antidegradation Review is conducted during template development.
APPLICABLE PERMIT PARAMETERS: Effluent parameters for conventional, non-conventional, and toxic pollutants have been obtained from the previous NPDES operating permit for this facility, technology based effluent limits, water quality based effluent limits, and from appropriate sections of the renewal application.
COMPLIANCE AND ENFORCEMENT: Enforcement is the action taken by the Water Protection Program (WPP) to bring an entity into compliance with the Missouri Clean Water Law, its implementing regulations, and/or any terms and conditions of an operating permit. The primary purpose of the enforcement activity in the WPP is to resolve violations and return the entity to compliance.
Applicable : The permittee/facility is currently under enforcement action.
Not Applicable ⊠; The permittee/facility is not currently under Water Protection Program enforcement action.
PRETREATMENT PROGRAM: The reduction of the amount of pollutants, the elimination of pollutants, or the alteration of the nature of pollutant properties in wastewater prior to or in lieu of discharging or otherwise introducing such pollutants into a Publicly Owned Treatment Works [40 CFR Part 403.3(q)].
Applicable : Permittee shall implement and enforce its approved pretreatment program in accordance with the requirements of [40 CFR Part 403]. The approved pretreatment program is hereby incorporated by reference. Permittee shall submit to the department on or before March 31st of each year a report briefly describing its pretreatment activities during the previous calendar year.
Not Applicable ⊠; At this time, the permittee is not required to implement and enforce a Pretreatment Program.
REASONABLE POTENTIAL ANALYSIS (RPA): Limitations must control all pollutants or pollutant parameters that are or may be discharged at a level which will cause, have reasonable potential to cause, or contribute to an excursion above the Missouri Water Quality Standards.
Applicable : A RPA was conducted for this facility for (parameters) and determined that this facility has the potential to cause or contribute to violations of Water Quality. Please see APPENDIX C – RPA RESULTS.
Not Applicable ⊠; A RPA was not conducted for this facility.

Removal efficiency is a method by which the Federal Regulations define Secondary Treatment and Equivalent to Secondary Treatment, which applies to Biochemical Oxygen Demand 5-day (BOD ₅) and Total Suspended Solids (TSS) for Publicly Owned Treatment Works (POTWs). Please see the United States Environmental Protection Agency's (EPA) website for interpretation of percent removal requirements for National Pollutant Discharge Elimination System Permit Application Requirements for Publicly Owned Treatment Works and Other Treatment Works Treating Domestic Sewage @ www.epa.gov/fedrgstr/EPA-WATER/1999/August/Day-04/w18866.htm
Applicable : Secondary Treatment is 85% removal [40 CFR Part 133.102(a)(3) & (b)(3)].
Applicable □; Equivalent to Secondary Treatment is 65% removal [40 CFR Part 105(a)(3) & (b)(3)].
Applicable : This wastewater treatment facility is not a POTW.
Not Applicable ⊠; This wastewater treatment facility is not a POTW. Influent monitoring is not being required to determine percent removal.
Sanitary Sewer Overflows (SSOs), and Inflow & Infiltration (I&I): Collection systems are a critical element in the successful performance of the wastewater treatment process. Under certain conditions, poorly designed, built, managed, operated, and/or maintained systems can pose risks to public health, the environment, or both. Causes of SSOs include, but are not limited to, the following: high levels of I&I during wet weather; blockages; structural, mechanical, or electrical failures; collapsed or broken sewer pipes; insufficient conveyance capacity; and vandalism. Effective and continuous management, operation, and maintenance, as well as ensuring adequate capacity and rehabilitation when necessary are critical to maintaining collection system capacity and performance while extending the life of the system.
Applicable : The permittee is required to develop or implement a program for maintenance and repair of the collection system and shall be required in this operating permit by either means of a Special Condition or Schedule of Compliance.
Not Applicable \(\subseteq \); This facility is not required to develop or implement a program for maintenance and repair of the collection system; however, it is a violation of Missouri State Environmental Laws and Regulations to allow untreated wastewater to discharge to waters of the state.
SCHEDULE OF COMPLIANCE (SOC): A schedule of remedial measures included in a permit, including an enforceable sequence of interim requirements (actions, operations, or milestone events) leading to compliance with the Missouri Clean Water Law, its implementing regulations, and/or the terms and conditions of an operating permit.
Applicable : The time given for effluent limitations of this permit were established in accordance with [10 CSR 20-7.031(10)].
Not Applicable ⊠; This permit does not contain a SOC.

STORM WATER POLLUTION PREVENTION PLAN (SWPPP):

A plan to schedule activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of waters of the state. The plan may include, but is not limited to, treatment requirements, operating procedures, and practices to control facility site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage.

Applicable □;

A SWPPP shall be developed and implemented for each site and shall incorporate required practices identified by the department with jurisdiction, incorporate erosion control practices specific to site conditions, and provide for maintenance and adherence to the plan.

Not Applicable ⊠;

At this time, the permittee is not required to develop and implement a SWPPP.

WASTELOAD ALLOCATIONS (WLA) FOR LIMITS: As per [10 CSR 20-2.010(78)], the amount of pollutant each discharger is allowed by the department to release into a given stream after the department has determined to total amount of pollutant that may be discharged into that stream without endangering its water quality.
Applicable : ; Wasteload allocations were calculated where applicable.
Not Applicable ⊠; Wasteload allocations were not calculated.
WLA MODELING: Applicable □; A WLA study including model was submitted to the department.
Not Applicable ⊠; A WLA study was either not submitted or determined not applicable by department staff.
WHOLE EFFLUENT TOXICITY (WET) TEST: As per [10 CSR 20-7.031(1)(CC)], a toxicity test conducted under specified laboratory conditions on specific indicator organism; and as per [40 CFR Part 122.2], the aggregate toxic effect of an effluent measured directly by a toxicity test.
Applicable \square ; Effective July 15, 2005, upon revision, renewal, modification, or issuance, all Missouri State Operating Permits under the NPDES will incorporate use of the following guidelines for determining the applicability and requirements for WET testing. WET testing requirements are established by the WET Test Policy, Section 308 of the Federal Water Pollution Control Act, and [40 CFR Part 136].
Not Applicable ⊠; At this time, the permittee is not required to conduct WET test for this facility.
303(d) LIST & TOTAL MAXIMUM DAILY LOAD (TMDL): Section 303(d) of the federal Clean Water Act requires that each state identify waters that are not meeting water quality standards and for which adequate water pollution controls have not been required. Water quality standards protect such beneficial uses of water as whole body contact (such as swimming), maintaining fish and other aquatic life, and providing drinking water for people, livestock and wildlife. The 303(d) list helps state and federal agencies keep track of waters that are impaired but not addressed by normal water pollution control programs.
A TMDL is a calculation of the maximum amount of a given pollutant that a body of water can absorb before its water quality is affected. If a water body is determined to be impaired as listed on the 303(d) list, then a watershed management plan will be developed that shall include the TMDL calculation
Applicable ⊠; Mark Twain Lake is listed on the 2002 Missouri 303(d) List for Mercury.
☐ – This facility is not considered to be a source of the above listed pollutant or considered to contribute to the impairment of Mark Twain Lake.
☐ – This facility is considered to be a source of or has the potential to contribute to the above listed pollutant(s).
Not Applicable :; This facility does not discharge to a 303(d) listed stream.

Part V – Effluent Limits Determination

Outfall #001 – Emergency Discharge

EFFLUENT LIMITATIONS TABLE:

PARAMETER	Unit	Basis for Limits	DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	Modified	PREVIOUS PERMIT LIMITATIONS
Flow	MGD	1	*		*	NO	S
Biochemical Oxygen Demand ₅	mg/L	1/4		65	45	NO	S
Total Suspended Solids	mg/L	1/4		120	80	NO	S
Ammonia as N	mg/L	2/3/5	*		*	YES	***
Temperature	°C	1/5/8	*		*	YES	***
pH	SU	1/4	≥ 6		≥ 6	NO	S
Fecal Coliform	**	1/2	1000		400	YES	***
Monitoring Frequency	Please see Minimum Sampling and Reporting Frequency Requirements in the Derivation and Discussion Section below.						

^{* -} Monitoring requirement only

N/A – Not applicable

S – Same as previous operating permit

Basis for Limitations Codes:

- 1. State or Federal Regulation/Law
- 2. Water Quality Standard (includes RPA)
- 3. Water Quality Based Effluent Limits
- 4. Lagoon Policy
- 5. Ammonia Policy
- 6. Dissolved Oxygen Policy

- 7. Antidegradation Policy
- 8. Water Quality Model
- 9. Best Professional Judgment
- 10. TMDL or Permit in lieu of TMDL
- 11. WET test Policy

OUTFALL #001 – DERIVATION AND DISCUSSION OF LIMITS:

- <u>Biochemical Oxygen Demand (BOD₅)</u>. Effluent limitations have been retained from previous state operating permit, please see the <u>APPLICABLE DESIGNATION OF WATERS OF THE STATE</u> sub-section of the <u>Receiving Stream Information</u>.
- <u>Total Suspended Solids (TSS)</u>. Effluent limitations have been retained from previous state operating permit, please see the **APPLICABLE DESIGNATION OF WATERS OF THE STATE** sub-section of the **Receiving Stream Information**.
- <u>pH</u>. Effluent limitations have been retained from previous state operating permit, please see the **APPLICABLE DESIGNATION OF WATERS OF THE STATE** sub-section of the <u>Receiving Stream Information</u>.
- <u>Total Ammonia Nitrogen.</u> Monitoring requirement only. Monitoring for temperature and ammonia are included to determine whether "reasonable potential" to exceed water quality standards exists after the discharge begins.
- <u>Temperature.</u> Monitoring requirement due to the toxicity of Ammonia varies by temperature.
- <u>Fecal Coliform</u>. Discharge shall not contain more than a monthly geometric mean of 400 colonies/100 mL and a daily maximum of 1000 colonies/100 mL during the recreational season (April 1 October 31), please see the **APPLICABLE DESIGNATION OF**WATERS OF THE STATE sub-section of the <u>Receiving Stream Information</u>. Future renewals of the facility operating permit will contain effluent limitations for E. coli, which will replace fecal coliform as the applicable bacteria criteria in Missouri's water quality standards.

^{** - #} of colonies/100mL; the Monthly Average for Fecal Coliform is a geometric mean.

^{*** -} Parameter not previously established in previous state operating permit.

• Minimum Sampling and Reporting Frequency Requirements.

PARAMETER	SAMPLING FREQUENCY	REPORTING FREQUENCY
Flow	once/day	once/quarter
Biochemical Oxygen Demand₅	once/month	once/quarter
Total Suspended Solids	once/month	once/quarter
Ammonia as N	once/month	once/quarter
Temperature	once/month	once/quarter
pH	once/month	once/quarter
Fecal Coliform	once/month	once/quarter

Outfall #001

LAND APPLICATION OPERATIONAL MONITORING AND IRRIGATED WASTEWATER TABLE:

PARAMETER	Unit	Basis for Limits	DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	Modified	PREVIOUS PERMIT LIMITATIONS
Lagoon Freeboard	feet	9	*			NO	S
Irrigation Period	hours	9	*			NO	S
Volume Irrigated	gallons	9	*			NO	S
Application Area	acres	9	*			NO	S
Application Rate	inches/acre	9	*			NO	S
Rainfall	inches	9	*			NO	S
Total Kjeldahl Nitrogen as N	mg/L	9	*			YES	***
Nitrate Nitrogen as N	mg/L	9	*			YES	***
Ammonia Nitrogen as N	**	9	*			YES	***
Monitoring Frequency	Please see Minimum Sampling and Reporting Frequency Requirements in the Derivation and Discussion Section below.						

^{* -} Monitoring requirement only

** - # of colonies/100mL; the Monthly Average for Fecal Coliform is a geometric mean.

N/A – Not applicable

S – Same as previous operating permit

Basis for Limitations Codes:

- 1. State or Federal Regulation/Law
- 2. Water Quality Standard (includes RPA)
- 3. Water Quality Based Effluent Limits
- 4. Lagoon Policy
- 5. Ammonia Policy
- 6. Dissolved Oxygen Policy

- 7. Antidegradation Policy
- 8. Water Quality Model
- 9. Best Professional Judgment
- 10. TMDL or Permit in lieu of TMDL
- 11. WET test Policy

^{*** -} Parameter not previously established in previous state operating permit.

OUTFALL #001 – DERIVATION AND DISCUSSION OF LIMITS:

- Lagoon Freeboard. Monitoring requirement only. The parameter has been retained from previous state operating permit.
- Irrigation Period. Monitoring requirement only. The parameter has been retained from previous state operating permit.
- <u>Volume Irrigated.</u> Monitoring requirement only. The parameter has been retained from previous state operating permit.
- Application Area. Monitoring requirement only. The parameter has been retained from previous state operating permit.
- Application Rate. Monitoring requirement only. The parameter has been retained from previous state operating permit.
- Rainfall. Monitoring requirement only. The parameter has been retained from previous state operating permit.
- <u>Total Kjeldahl Nitrogen as N.</u> Monitoring requirement only. Monitoring for Ammonia Nitrogen as N is included to determine nutrient loading rates on the land application fields.
- <u>Ammonia Nitrogen as N.</u> Monitoring requirement only. Monitoring for Total Kjeldahl Nitrogen as N is included to determine nutrient loading rates on the land application fields.
- <u>Nitrate Nitrogen as N.</u> Monitoring requirement only. Monitoring for Nitrate Nitrogen as N is included to determine nutrient loading rates on the land application fields.

• Minimum Sampling and Reporting Frequency Requirements.

PARAMETER	SAMPLING FREQUENCY	REPORTING FREQUENCY
Lagoon Freeboard	once/month	once/year
Irrigation Period	once/day	once/year
Volume Irrigated	once/day	once/year
Application Area	once/day	once/year
Application Rate	once/day	once/year
Rainfall	once/day	once/year
Total Kjeldahl Nitrogen as N	twice/year	once/year
Ammonia Nitrogen as N	twice/year	once/year
Nitrate Nitrogen as N	twice/year	once/year

Outfall #002 – Filter Backwash and Pool Discharge

EFFLUENT LIMITATIONS TABLE:

PARAMETER	Unit	Basis for Limits	DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	Modified	PREVIOUS PERMIT LIMITATIONS
Filter Backwash		-	-		-	-	
Volume	gallons	9	*		*	NO	S
Chlorine, Total Residual	mg/L	1	0.019		0.01	YES	.02/.02
Settleable Solids	mL/L/hr	1	1.5		1.0	YES	1.5/1.5
pH	SU	1	6.5 – 9		6.5 – 9	YES	≥ 6
Pool Drainage							
Volume	gallons	9	*		*	NO	S
Chlorine, Total Residual	mg/L	1/2	0.019		0.01	YES	.02/.02
Settleable Solids	mL/L/hr	1	1.5		1.0	NO	S
Dissolved Oxygen – Minimum	mg/L	1	5		5	NO	S
pH	SU	1	6.5 – 9		6.5 – 9	YES	≥ 6
Monitoring Frequency	Please see Minimum Sampling and Reporting Frequency Requirements in the Derivation and Discussion Section below.						

^{* -} Monitoring requirement only

N/A – Not applicable

S – Same as previous operating permit

Basis for Limitations Codes:

- 1. State or Federal Regulation/Law
- 2. Water Quality Standard (includes RPA)
- 3. Water Quality Based Effluent Limits
- 4. Lagoon Policy
- 5. Ammonia Policy
- 6. Dissolved Oxygen Policy

- 7. Antidegradation Policy
- 8. Water Quality Model
- 9. Best Professional Judgment
- 10. TMDL or Permit in lieu of TMDL
- 11. WET test Policy

OUTFALL #001 – DERIVATION AND DISCUSSION OF LIMITS:

Filter Backwash

- **Volume.** Monitoring requirement only. The parameter has been retained from previous state operating permit.
- <u>Total Residual Chlorine (TRC)</u>. 0.019 mg/L as a Daily Maximum and 0.010 mg/L as a Monthly Average. Please see 10 CSR 20-7.031, Table A]
- <u>Settleable Solids.</u> 1.5 mL/L/hr as a Daily Maximum and 1.0 mL/L/hr as a Monthly Average. The effluent limitations established for Settleable Solids is to make the limit consistent with limitations contained in the Master General Permit Template for Swimming Pool Filter Backwash and Pool Drainage.
- **pH**. 6.5-9.0 Standard Units. Effluent limits established consistent with Water Quality Standards, 10 CSR 20-7.031(4)(E).

^{** - #} of colonies/100mL; the Monthly Average for Fecal Coliform is a geometric mean.

^{*** -} Parameter not previously established in previous state operating permit.

Pool Drainage

- **Volume.** Monitoring requirement only. The parameter has been retained from previous state operating permit.
- <u>Total Residual Chlorine (TRC)</u>. 0.019 mg/L as a Daily Maximum and 0.010 mg/L as a Monthly Average. Please see 10 CSR 20-7.031, Table A]
- <u>Settleable Solids.</u> Effluent limitations have been retained from previous state operating permit, please see the **APPLICABLE DESIGNATION OF WATERS OF THE STATE** sub-section of the <u>Receiving Stream Information.</u>
- **Dissolved Oxygen.** 5.0 mg/L as a Daily Maximum and 5.0 mg/L as a Monthly Average. Please see 10 CSR 20-7.031, Table A]
- **pH**. 6.5-9.0 Standard Units. Effluent limits established consistent with Water Quality Standards, 10 CSR 20-7.031(4)(E).
- Minimum Sampling and Reporting Frequency Requirements.

PARAMETER	SAMPLING FREQUENCY	REPORTING FREQUENCY
Filter Backwash		
Volume	once/month	once/year
Chlorine, Total Residual	once/month	once/year
Settleable Solids	once/month	once/year
pН	once/month	once/year
Pool Drainage		
Volume	once/month	once/year
Chlorine, Total Residual	once/month	once/year
Settleable Solids	once/month	once/year
Dissolved Oxygen – Minimum	once/month	once/year
pH	once/month	once/year

Part VI – Administrative Requirements

Date of Factsheet: June 2, 2008

On the basis of preliminary staff review and the application of applicable standards and regulations, the Department, as administrative agent for the Missouri Clean Water Commission, proposes to issue a permit(s) subject to certain effluent limitations, schedules, and special conditions contained herein and within the operating permit. The proposed determinations are tentative pending public comment.

Date of Public Notice: At	igust 8, 2008		
Submitted by		Reviewed by	
Brant Farris, ES Northeast Regional Office (660) 385-8000 brant.farris@dnr.mo.gov		Abbie Stockett, ES Northeast Regional Office (660) 385-8000 <u>abbie.stockett@dnr.mo.go</u>	
Brant Farris	Date	Abbie Stockett	Date